

# M2-MAYA-W1 series



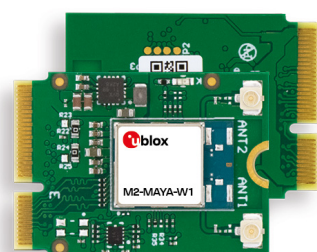
## M.2 cards with MAYA-W1 Wi-Fi 4 and Bluetooth 5.2 module

### Modules supporting IEEE 802.11a/b/g/n and Bluetooth/Bluetooth Low Energy 5.2

- M.2 type 2230 Key E form factor
- Dual band Wi-Fi 2.4 GHz and 5 GHz 802.11a/b/g/n
- Dual-mode Bluetooth 5.2 (Bluetooth Classic and Low Energy)
- Operation modes: Access point, Station, Wi-Fi Direct and combinations
- Two variants: PCB antenna and U.FL antenna connectors
- Compatible with NXP i.MX evaluation and development boards



22 x 30 x 2.8 mm



### Product description

The M2-MAYA-W1 card combines the maximum performance of the MAYA-W1 Wi-Fi 4 and Bluetooth 5.2 connectivity module with the flexibility and ease of use of a M.2 card. The card supports all features of the MAYA-W1 series modules and is based on the NXP IW416 multiradio chipset. M2-MAYA-W1 can deliver data rates up to 150 Mbit/s. With dual-band 2.4 / 5 GHz and 40 MHz channel-width, M2-MAYA-W1 can work as a Wi-Fi station with different types of access points, such as a simple access point, P2P communication, or a combination of these. Both Bluetooth BR/EDR (classic) and the full feature set of Bluetooth Low Energy 5 are supported. M2-MAYA-W1 is a host-based module that requires a host processor running either Linux or Android operating systems; driver support for the NXP MCUXpresso SDK is also available. It connects to a host processor through SDIO (for Wi-Fi) and high-speed UART (for Bluetooth) interfaces. The MAYA-W1 module featured on the card, like all u-blox modules, undergoes extensive qualification tests to ensure reliability over its lifetime and each M.2 card is fully tested before leaving the assembly line.

### Key features

- M.2 type 2230 Key E form factor
- Wi-Fi 4, dual band with data rates up to 150 Mbit/s
- Supports 802.11d/e/h/i/k/r/u/v/w
- Wi-Fi 20 and 40 MHz channels
- Supports up to 8 Stations in AP-mode
- Bluetooth and Bluetooth low energy v5.2
- Supports up to 16 Bluetooth Low Energy connections
- Access point mode for up to 8 stations
- Security: WPA3, WPA2, TKIP/WPA, WEP (64/128 bit), WAPI, AES

	M2-MAYA-W161	M2-MAYA-W166
<b>Grade</b>		
Automotive		
Professional		
Standard	•	•
<b>Radio</b>		
Chip inside	NXP IW416	
Bluetooth qualification	v5.2	v5.2
Bluetooth profiles	HCI	HCI
Bluetooth BR/EDR	•	•
Bluetooth Low Energy	•	•
Wi-Fi 4 IEEE 802.11 standards	a/b/g/n	a/b/g/n
Wi-Fi frequency band [GHz]	2.4 and 5	2.4 and 5
Bluetooth output power conducted [dBm]	10	10
Wi-Fi output power conducted [dBm]	18	18
Antenna type	2 U-FL connectors	1 pcb antenna
<b>OS support</b>		
Android / Linux drivers (from u-blox)	•	•
RTOS (via NXP i.MX RT MCUs)	•	•
<b>Interfaces</b>		
High-speed UART (Bluetooth)	1	1
PCM, I2S (Bluetooth audio)	1	1
SDIO (Wi-Fi) [version]	3.0	3.0
<b>Features</b>		
Micro Access Point [max connects]	8	8
Wi-Fi direct	•	•
WPA3	•	•
RF calibration in OTP	•	•
Programmed MAC address	•	•

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## Features

Wi-Fi standards	Wi-Fi 4 IEEE 802.11a/b/g/n IEEE 802.11d/e/h/i/k/r/u/v/w
Wi-Fi channels	2.4 GHz: 1-13 5 GHz: 36-165
Bluetooth	v5.2, class 1 and 2 transmission Bluetooth low energy and Bluetooth BR/EDR
Antennas	M2-MAYA-W161: 2 U.FL connectors M2-MAYA-W166: 1 embedded PCB antenna
Output Tx-power	TBD
Security	128-bit AES hardware encryption

## Software features

RF calibration	Available in on-board OTP memory
MAC addresses	Available in on-board OTP memory
Security	WEP 64/128 bit WPA (TKIP, AES) WPA2 (CCMP, AES) WPA3 WAPI
Wi-Fi operational modes	Station, Access-Point, Wi-Fi direct, or any combination of these
Driver support	Free of charge drivers for Linux and Android RTOS (with certain types of NXP MCUs)
Wi-Fi/Bluetooth coexistence	Internal TDM mechanism

## Interfaces

Wi-Fi	SDIO 3.0 (4-bit, up to 150 MHz clock)
Bluetooth	4-wire high-speed UART PCM and I2S for audio
Other	GPIOs

## Package

Dimensions	22 × 30 × 2.8 mm
Mounting	M.2 Key-E connector 2199230-4 on host platform

## Environmental data, quality and reliability

Operating temperature	−40 °C to +85 °C
Standard qualification	

## Electrical data

Power supply	3.3 V (from M.2 card voltage pin) 1.8 V (generated by on-card DCDC)
VIO power supply	1.8 V / 3.3 V (default: 1.8 V)

## Certifications and approvals

Type approvals	TBD
Bluetooth qualification	TBD

## Product variants

M2-MAYA-W161	Standard grade M.2 card module with two separate U.FL antenna connectors for Wi-Fi and Bluetooth
M2-MAYA-W166	Standard grade M.2 card module with embedded PCB antenna for Wi-Fi and Bluetooth

## Further information

For contact information, see [www.u-blox.com/contact-u-blox](http://www.u-blox.com/contact-u-blox).

For more product details and ordering information, see the product data sheet.

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